

### **REMARKS**

Favorable reconsideration is respectfully requested.

Claim 1 is the only claim in this application.

Claim 1 incorporates the features of previous claim 3 and the significance of this is evident from paragraph [0027] of the present specification as well as the discussion below.

Further, claim 1 defines the polymeric recording film as “photoresponsive”, support for which is evident from e.g., paragraph [0012] of the specification. The significance of this feature will also be discussed below.

Claims 1-3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over any one of Natansohn et al. ‘381, Bieringer et al. ‘846, Eich et al. ‘859 or Savant et al. ‘221, in view of Kokado JP 63-117322 and Goldberg ‘261.

Further, claims 1-3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over any one of Natansohn et al. ‘381, Bieringer et al. ‘846, Eich et al. ‘859 or Savant et al. ‘221, in view of Yamaguchi et al. ‘128 and Aoi et al. ‘080.

These rejections are respectfully traversed.

It is noted that the claims as they stood prior to the filing of the RCE of July 7, 2004 had been rejected over various combinations of the primary references of the above rejections and that these rejections have been withdrawn in Official Action paragraph 1.

The primary references are essentially related to the preamble of claim 1 and not the improvement portion of the claim. These primary references are discussed in the remarks of record prior to the filing of the RCE.

Both sets of secondary references fail to overcome the deficiencies of the primary references, particularly with respect to claim 1 as above amended, as will now be explained.

With regard to the Kokado JP reference, the rejection contends that the reference teaches preheating an optical recording medium with a larger laser beam and writing information with a smaller beam. However, it is the disclosure of this reference that “preheating” is conducted on to the peripheral area of the information writing beam. This reference is silent on the proportion of the irradiance values by the first and second light beams, now recited in claim 1.

Such a proportion of the irradiance is applicable only to the specific recording medium recited in the preamble of claim 1, and is thus unobvious from the combined reference teachings.

Moreover, the present claim recites that the polymeric film is photoresponsive because, in contrast to the references in which the recording material is susceptible to thermal recording, recording in the recording medium in the present invention does not depend on the thermal effect of light irradiation. See, e.g., paragraph [0012] of the specification.

With regard to Goldberg et al., the rejection contends that the reference teaches optical recording, where the recording layer is preheated to near the melting point and another beam performs the recording. The disclosure of Goldberg, however, is that the recording medium is a metal film (see ABSTRACT) which is a very different material from the azobenzene moiety-based photo-responsive polymeric film herein, so that the art-skilled would not be motivated to apply the teaching of Goldberg's thermoresponsive film to the photoresponsive polymeric recording film of the present specification.

With regard to Yamaguchi et al., the rejection points out that the reference teaches in figure 2, a preheating laser and a recording laser, where the preheating laser forms a larger spot than the recording laser. This reference, however, is silent on the applicability of this spot size relationship of the laser beams to the recording medium of an optical recording film. Moreover, the reference is silent on the significance of selecting a limited proportion between the irradiance values on the first and second recording spots of the photoresponsive film recited in claim 1.

With regard to the Aoi et al. reference, the rejection contends that the reference teaches overlapping laser beam spots during recording to preheat the heat mode recording medium. The reference, however, is silent on the irradiance ratio of the two overlapping spots as is the subject matter of above amended claim 1. The reference also suggests a preferred material for the recording medium, which is a styrene-oligomer (see 3/35), a very different material from the azobenzene moiety-containing polymeric compound in the present invention. The reference is, of course, silent as to the irradiance ratio between the two overlapping spots on the photoresponsive film of claim 1.

The subject matter in each of the secondary references is a data-recording method utilizing the energy threshold value existing when a morphological change or phase change is caused by light and heat irradiation. In other words, an underlying assumption in these references is that irradiation with a

write beam alone (without a preheating beam) is insufficient for data recording. In contrast, in the present method, the write beam alone is sufficient for data recording. In this regard, the claimed method is clearly unobvious from the cited references, alone or combined.

In the claimed method, which utilizes the fact that a threshold value exists in the phenomenon of formation of a recording pit by laser beam irradiation, the data recording by a write beam can be promoted by the irradiation with an assist beam leading to an improvement in the recording speed. Even though it may be the case that the claimed method appears to have similarity to the methods disclosed in the references in respect of the use of two light beams in combination, none of the references is suggestive of the presently claimed method, beginning with the difference in the materials employed. Compare with the Goldberg reference, in which the recording layer is a metal film.

Lastly, as stated above, the present claims recite that the polymeric film is photoresponsive in contrast to the films of the cited references which implicitly if not expressly require the thermal effect of irradiation.


For the foregoing reasons, it is apparent that the rejections on prior art are untenable and should be withdrawn.

If the Examiner has any comments or proposals for expediting prosecution, please contact undersigned at the telephone number below.

Respectfully submitted,

Takashi FUKUDA et al.

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By:   
Matthew M. Jacob  
Registration No. 25,154  
Attorney for Applicants

MJ/ke  
Washington, D.C. 20006-1021  
Telephone (202) 721-8200  
Facsimile (202) 721-8250  
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